National Institute of Environmental Health Sciences

A review on Anopheles culicifacies: From bionomics to control with special reference to Indian subcontinent

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Abstract:

Anopheles culicifacies, is a complex of five isomorphic sibling species A, B, C, D and E and is considered to be the major malaria vector in the Indian subcontinent. Despite numerous studies, it is difficult to have a global view of the ecological and bionomical characteristics of the individual sibling species, as different identification methods have been used. Major biological and ecological trends such as the high plasticity of behaviour and the sympatry of species are addressed. In spite of the availability of rapid molecular identification tools, we still lack important information concerning the biological characteristics of each sibling species. Resistance to insecticide is alarming as it has developed quadruple resistance in two states of India. An intensified and appropriate intervention measure to interrupt transmission is the call of the day. The authors focus on (1) reviewing the vectorial aspects of An. culicifacies (2) discussing recently published data on bionomics of each sibling species, (3) identifying lacunae in the understanding of the Culicifacies complex, and (4) exploring the possibility of proper control measures. Our understanding of the bionomics of all the five sibling species would certainly help, keeping in mind the climatic changes we are to face in the next few years.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: India

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Malaria

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified